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AUTHOR Abram, Marie J.
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ABSTRACT

Concern for an apparent drop in liking for school by fourth grade students led to the study reported here. It was felt that less adequately prepared students would like school less than their counterparts. Moreover, three self-concept scales were thought to be connected to the observed decline. Four instruments were administered to fourth graders in the Hart County (Kentucky) School System. These included: liking for school, happiness and satisfaction, popularity, anxiety. In addition, seven subscales of the Comprehensive Tests of Basic Skills (CTBS) were used as indicators of students' preparation for fourth grade. Results found no association between grade four preparation and three dependent variables (liking for school, popularity, anxiety). Association was found between four subareas of the CTBS (reading comprehension, total reading, math concepts, math application) and the happiness and satisfaction scale. (Author/GK)

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FORWARD

This document is the final report of a PREPS research project conducted jointly by the PREPS research team of the Professional Development Center Network and Mr. Zeb Ricketts and Mrs. Ruth Rogers of the Hart County School System.

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INTRODUCTION

The Hart County Administration was concerned with an apparent drop in liking for school by fourth grade students. It was conjectured that preparation for fourth grade might be tied to this decline with less adequately prepared students liking school less than more prepared students. Moreover, it was felt that three self-concept scales might be tied to this observed decline.

Consequently, a study was designed that administered four instruments to all fourth grade students in the Hart County system. The instruments were:

(1) Liking for school
(2) Happiness and satisfaction
(3) Popularity
(4) Anxiety

School records were used to determine students' achievement at the end of third grade. Students' achievement in seven areas are referred to as the measures of preparation for fourth grade.

The major portion of the study focused on understanding the association between preparation for fourth grade and (1) liking for school and the (2) three self concept scales. In addition, students were asked whether they would like to increase or decrease the time spent in seven subject areas. The relationship between this time factor and preparation for fourth grade was also studied.

POPULATION

The population of the study was all students presently in the Hart County school system who completed achievement tests at the end of third grade in the spring of 1980 (n=91).

INSTRUMENTATION

- Liking for School is a 5-item scale devised especially for this study. No reliability or validity has been established. Scoring goes from 0 to 5 with 5 indicating greater liking for school.

- Happiness and Satisfaction is a subscale of the Piers-Harris Children's Self Concept Scale (1). The total Piers-Harris instrument has been found to have an internal consistency between 0.78 and 0.93 using Kuder-Richardson formula 21 and between 0.90 and 0.87 using Spearman-Brown odd-even formula. Test-retest has been measured at 0.77. Scoring goes from 0 to 5 with 5 indicating greater happiness and satisfaction.
- Popularity is a subscale of the Piers-Harris Children's Self-Concept Scale. Scoring goes from 0 to 5 with 5 indicating greater feelings of popularity.
- Anxiety is a subscale of the Piers-Harris Children's Self-Concept Scale. Scoring goes from 0 to 5 with 5 indicating greater anxiety.
- Time in Major School Areas - Children are asked to indicate whether they wanted to spend:
  - a lot more time
  - a little more time
  - about the same amount of time
  - a little less time
  - a lot less time

  in 7 school areas:
  (1) Reading
  (2) Language
  (3) Science
  (4) Social Studies
  (5) Spelling
  (6) Physical Education
  (7) Recess

Scoring was done by assigning a 5 to "a lot more time" and a 1 to "a lot less time" with 4, 3, and 2 assigned to the intermediate positions.

- The Comprehensive Test of Basic Skills (CTBS) - 7 subscales of the CTBS were used as indicators of students' preparation for fourth grade. The scales were:
  - Vocabulary
  - Reading comprehension
  - Total reading
  - Math concepts
  - Math computations
  - Math applications
  - Total math

The CTBS is a nationally normed achievement test developed by McGraw-Hill.

DATA COLLECTION

Instruments other than the CTBS were administered by Mrs. Ruth Rogers, counselor in the Hart County school during the winter of the 1980-81 school year. Students were asked to complete the instruments in their individual classrooms.

The CTBS was administered during the annual spring 1980 testing. The tests were machine scored by the Kentucky State Department of Education.

FINDINGS

Liking For School and
Three Self Concept Measures

The major analyses of the studies consisted of testing whether each of the dependent measures: (1) liking for school, (2) happiness and satisfaction, (3) popularity, and (4) anxiety were associated with each of the seven CTBS subscales.

To test the association the independent variables were formed into four categories by dividing achievement scores into quartiles and calculating analysis of variances using the means of the dependent variables. The level of significance was set at the 0.05 level. Tables 1 through 4 give the results of these analyses.

Table 1 gives the analysis of variances for the dependent measures, Liking for School. None of the F tests were significant. In all cases the highest mean reported for liking for school was found in the third or fourth quartile. The range of means reported over all analyses went from 2.55 (second quartile in total reading) to 4.00 (third quartile in math computation). These analyses appear to indicate that although better prepared students tended to like school better than not so well prepared students, the differences were not beyond what might be excepted by chance.

Table 2 gives the analysis of variances for the dependent measure, Happiness and Satisfaction. Four of the seven F tests showed significant differences. These four areas of preparation were in: (1) reading comprehension, (2) total reading, (3) math concepts, and (4) math application. In all seven areas the highest mean for happiness and satisfaction was found in the third or fourth quartile. The range of means for happiness and satisfaction reported over all analyses went from 3.74 (lowest quartile in math concepts) to 4.89 (highest quartile in total reading). These analyses appear to indicate that better prepared students tend to express greater happiness and satisfaction and that in four areas these differences are beyond chance.

Table 3 gives the analysis of variance for the dependent measure, Popularity. None of the F tests were significant. In all cases the highest means reported were in the third or fourth quartile. The range of means for popularity scoring over all analyses went from 3.40 (lowest quartile in math application) to 4.40

(highest quartile in math concepts). These analyses appear to indicate that although students who see themselves as more popular generally are better prepared, the differences do not exceed what might be expected by chance.

Table 4 gives the analysis of variance for the dependent measure, Anxiety. None of the F tests were significant. Scoring patterns showed the less prepared students were most anxious. The range of means for anxiety over all analyses went from 2.22 (lowest quartile in math computation) to 0.74 (highest quartile in reading comprehension. These analyses appear to indicate that although students expressing more anxiety were less well prepared, the differences do not exceed what might be expected by chance.

Student's Perception of Time Changes

Similar analyses to those reported on Liking for School and Self-Concept measures were calculated for seven measures in which students were asked whether they would like to spend more, about the same, or less time in a subject area. Time changes served as the dependent measures and preparation in achievement areas served as the independent variable. Table 5 through Table 11 displays these data.

Tables 5 through 9 contrast data for time spent in basic subject areas (reading, language, science, social studies, spelling). The findings on these five tables are similar. Students' responses varied from the upper 2's to about a 4. In other words, students were saying, "about the same amount of time" to "a little more time." No significant differences were found for any of the 35 analyses. This indicates that level of preparation was not associated with perception of time change needed in basic subject areas.

Tables 10 and 11 show means computed on students' perception of the need to change time in physical education and recess. Means on these two sets of measures were considerably higher than means on Tables 5 through 9 indicating

that students wanted considerably more physical education and recess. Mean scores ranged from 4.11 (more time in recess, lowest quartile in reading comprehension) to 5.00 (more time in recess, highest quartile math concepts and total math). This puts students as a group as saying they would like physical education "a little more" to "a lot more."

No significant difference was found among quartile groups on any analyses using physical education. This would indicate that students at all levels of preparation felt similarly about increasing time in physical education. All but one analysis for time spent in recess was non significant. This would indicate that generally students at all levels of preparation felt similarly about increasing time in recess. The one exception was that students in the third quartile of math computation wanted less recess than students in the second and fourth quartiles.

DISCUSSION

It is generally conceded that instruction changes rather dramatically at the time students complete the primary division and enter the intermediate division. Teachers begin to build on previous work and students are often expected to search for information and think through a situation. Strong developmental trends within the child also support independent actions and thought at about fourth grade. It would appear reasonable to assume that students with strong preparation would find themselves better prepared for these changes and therefore express more liking for school and greater self-concept measures.

In this study no association was found between preparation for fourth grade and three dependent variables (liking for school, popularity, and anxiety). Association was found between four subareas of the CTBS (reading

comprehension, total reading, math concepts, and math application) and the happiness and satisfaction scale. The direction of all four relationships showed higher happiness and satisfaction being associated with greater preparation for fourth grade. This same direction was also evident in the three subareas of preparation not found to be significantly related to happiness and satisfaction.

It would appear that the original assumption of the study, that preparation was associated with liking for school, was not substantiated but rather that preparation was found to be associated with students' personal happiness and satisfaction. One possible explanation for this finding might be that poorly prepared students were internalizing rather than externalizing the difficulties they face in adjusting to fourth grade. In other words, rather than saying, "something is wrong with the school and I do not like it anymore" they may be saying, "something is wrong with me because I do not fit school so well anymore." It would be interesting to follow this group of students through fifth and sixth grades and see whether their personal happiness changes as they become better adjusted to the teaching practices of the intermediate years.

Analyses centering on time students would prefer to spend in subject areas showed little difference by preparation of student. What these analyses appeared to show when taken as a unit is that students want to spend about the same time they are now spending in basic subject areas but more time in physical education and recess. It would appear that students are satisfied that the present teacher schedule of time for basic subjects fits their learning needs but students appear pressed to sit still and concentrate for long periods of time.

APPENDIX

Table 1

Mean Score for
Liking for School
For Each Achievement Variable
Plus F Test for Significance

CTBS Area	Quartile			
	First	Second	Third	Fourth
Vocabulary	3.41 (1.42) n=17	3.26 (1.97) n=27	3.00 (2.02) n=25	4.06 (1.56) n=17
	F = 1.20, p = 0.32			
Reading Comprehension	3.11 (1.74) n=18	3.10 (2.07) n=21	3.71 (1.67) n=28	3.42 (1.86) n=19
	F = 0.61, p = 0.61			
Total Reading	3.53 (1.37) n=17	2.55 (2.21) n=22	3.65 (1.70) n=31	3.81 (1.64) n=16
	F = 2.18, p = 0.10			
Math Concept	3.25 (1.65) n=16	2.74 (1.94) n=19	3.58 (1.91) n=31	3.75 (1.65) n=20
	F = 1.23, p = 0.31			
Math Computation	3.56 (1.51) n=9	2.96 (2.01) n=23	4.00 (1.37) n=21	3.21 (1.96) n=33
	F = 1.36, p = 0.26			
Math Application	3.47 (1.64) n=15	2.95 (1.96) n=21	3.64 (1.80) n=36	3.21 (1.89) n=14
	F = 0.67, p = 0.57			
Total Math	3.33 (1.67) n=12	3.17 (2.01) n=24	3.61 (1.81) n=28	3.32 (1.78) n=22
	F = 0.26, p = 0.86			

* Indicates statistical significance

Table 2

Mean Score for
Happiness and Satisfaction
For Each Achievement Variable
Plus F Test for Significance

CTBS Area	Quartile			
	First	Second	Third	Fourth
Vocabulary	4.00 (1.22) n=17	4.48 (1.01) n=27	4.48 (0.96) n=25	4.77 (0.56) n=17
	F = 1.81, p = 0.15			
Reading Comprehension	3.94 (1.21) n=18	4.24 (1.22) n=21	4.57 (0.79) n=28	4.95 (0.23) n=19
	* F = 4.01, p = 0.01			
Total Reading	4.00 (1.22) n=17	4.23 (1.23) n=22	4.61 (0.76) n=31	4.89 (0.34) n=16
	* F = 3.01, p = 0.04			
Math Concept	3.75 (1.18) n=16	4.32 (1.11) n=19	4.71 (0.86) n=31	4.70 (0.57) n=20
	* F = 4.39, p = 0.01			
Math Computation	3.78 (1.30) n=9	4.39 (1.11) n=23	4.43 (0.87) n=21	4.67 (0.82) n=33
	F = 2.01, p = 0.12			
Math Application	3.80 (1.21) n=15	4.33 (1.11) n=21	4.67 (0.83) n=36	4.71 (0.61) n=14
	* F = 3.43, p = 0.02			
Total Math	3.83 (1.19) n=12	4.42 (1.10) n=24	4.46 (1.00) n=28	(0.53) n=22
	F = 2.47, p = 0.07			

* Indicates statistical significance

Table 3

Mean Score for
Popularity
For Each Achievement Variable
Plus F Test for Significance

CTBS Area	Quartile			
	First	Second	Third	Fourth
Vocabulary	3.24 (1.48) n=17	4.00 (1.49) n=27	3.92 (1.35) n=25	4.12 (1.22) n=17
	F = 1.42, p = 0.24			
Reading Comprehension	3.44 (1.50) n=18	3.81 (1.25) n=21	3.89 (1.69) n=28	4.21 (0.97) n=19
	F = 0.92, p = 0.43			
Total Reading	3.47 (1.55) n=17	4.00 (1.23) n=22	3.68 (1.60) n=31	4.38 (0.96) n=16
	F = 1.41, p = 0.25			
Math Concept	3.69 (1.30) n=16	3.42 (1.77) n=19	3.84 (1.39) n=31	4.40 (0.99) n=20
	F = 1.71, p = 0.17			
Math Computation	3.78 (1.09) n=9	3.87 (1.52) n=23	3.57 (1.83) n=21	4.03 (1.10) n=33
	F = 0.45, p = 0.72			
Math Application	3.40 (1.45) n=15	3.90 (1.61) n=21	3.97 (1.34) n=36	3.93 (1.27) n=14
	F = 0.62, p = 0.61			
Total Math	3.83 (1.19) n=12	3.54 (1.67) n=24	3.89 (1.50) n=28	4.14 (1.08) n=22
	F = 0.69, p = 0.56			

* Indicates statistical significance

Table 4

Mean Score for
Anxiety
For Each Achievement Variable
Plus F Test for Significance

CTBS Area	Quartile			
	First	Second	Third	Fourth
Vocabulary	2.00 (1.46) n=17	1.44 (1.67) n=27	1.12 (1.33) n=25	1.00 (1.54) n=17
	F = 1.57, p = 0.20			
Reading Comprehension	1.83 (1.90) n=18	1.43 (1.50) n=21	1.46 (1.67) n=28	0.74 (0.99) n=19
	F = 1.73, p = 0.17			
Total Reading	1.77 (1.48) n=17	1.46 (1.71) n=22	1.42 (1.54) n=31	0.75 (1.18) n=16
	F = 1.31, p = 0.28			
Math Concept	1.56 (1.67) n=16	1.79 (1.71) n=19	1.32 (1.44) n=31	0.90 (1.29) n=20
	F = 1.21, p = 0.31			
Math Computation	2.22 (1.79) n=9	1.04 (1.39) n=23	1.43 (1.43) n=21	1.33 (1.57) n=33
	F = 1.31, p = 0.27			
Math Application	1.87 (1.88) n=15	1.43 (1.39) n=21	1.17 (1.44) n=36	1.29 (1.54) n=14
	F = 0.76, p = 0.52			
Total Math	1.83 (1.75) n=12	1.25 (1.42) n=24	1.57 (1.64) n=28	1.00 (1.34) n=22
	F = 1.01, p = 0.39			

* Indicates statistical significance

Table 5

Mean Score for
Time in Reading
For Each Achievement Variable
Plus F Test for Significance

CTBS Area	Quartile			
	First	Second	Third	Fourth
Vocabulary	3.29 (1.61) n=17	3.35 (1.58) n=31	3.00 (1.50) n=25	3.67 (1.41) n=18
	F = 0.67, p = 0.57			
Reading Comprehension	3.11 (1.53) n=18	3.33 (1.81) n=24	3.46 (1.45) n=28	3.24 (1.34) n=21
	F = 0.21, p = 0.89			
Total Reading	3.35 (1.54) n=17	3.08 (1.84) n=24	3.30 (1.31) n=33	3.59 (1.50) n=17
	F = 0.36, p = 0.78			
Math Concept	3.06 (1.69) n=16	3.81 (1.63) n=21	3.12 (1.43) n=33	3.28 (1.42) n=21
	F = 1.06, p = 0.37			
Math Computation	3.11 (1.90) n=9	3.12 (1.57) n=24	3.33 (1.58) n=24	3.47 (1.40) n=34
	F = 0.29, p = 0.83			
Math Application	2.93 (1.71) n=15	3.30 (1.72) n=23	3.58 (1.37) n=38	3.00 (1.41) n=15
	F = 0.90, p = 0.44			
Total Math	3.31 (1.84) n=13	2.92 (1.55) n=25	3.63 (1.47) n=30	3.30 (1.36) n=23
	F = 0.99, p = 0.40			

* Indicates statistical significance

Table 6

Mean Score for
Time in Language
For Each Achievement Variable
Plus F Test for Significance

CTBS Area	Quartile			
	First	Second	Third	Fourth
Vocabulary	2.71 (1.31) n=17	3.16 (1.51) n=31	2.84 (1.43) n=25	3.89 (1.38) n=18
	F = 0.91, p = 0.44			
Reading Comprehension	2.83 (1.29) n=18	3.00 (1.69) n=24	3.18 (1.28) n=28	3.05 (1.47) n=21
	F = 0.21, p = 0.89			
Total Reading	3.06 (1.25) n=17	2.79 (1.77) n=24	3.06 (1.17) n=33	3.29 (1.57) n=17
	F = 0.42, p = 0.74			
Math Concept	2.81 (1.52) n=16	3.14 (1.62) n=21	3.09 (1.28) n=33	3.00 (1.45) n=21
	F = 0.19, p = 0.91			
Math Computation	2.78 (1.56) n=9	3.08 (1.61) n=24	2.92 (1.41) n=24	3.15 (1.31) n=34
	F = 0.23, p = 0.88			
Math Application	2.73 (1.62) n=15	3.26 (1.39) n=23	2.79 (1.47) n=38	3.60 (0.99) n=15
	F = 1.61, p = 0.19			
Total Math	2.77 (1.54) n=13	3.08 (1.63) n=25	2.67 (1.32) n=30	3.61 (1.12) n=23
	F = 2.15, p = 0.10			

* Indicates statistical significance

Table 7

Mean Score for
Time in Science
For Each Achievement Variable
Plus F Test for Significance

CTBS Area	Quartile			
	First	Second	Third	Fourth
Vocabulary	3.00 (1.41) n=17	3.06 (1.53) n=31	3.56 (1.26) n=25	3.33 (1.24) n=18
	F = 0.81, p = 0.49			
Reading Comprehension	3.28 (1.49) n=18	3.08 (1.53) n=24	3.25 (1.29) n=28	3.38 (1.28) n=21
	F = 0.18, p = 0.92			
Total Reading	3.18 (1.38) n=17	3.21 (1.64) n=24	3.27 (1.23) n=33	3.29 (1.36) n=17
	F = 0.03, p = 0.99			
Math Concept	3.25 (1.48) n=16	3.19 (1.50) n=21	2.97 (1.31) n=33	3.71 (1.23) n=21
	F = 1.28, p = 0.29			
Math Computation	3.67 (1.11) n=9	3.29 (1.27) n=24	3.17 (1.68) n=24	3.15 (1.31) n=34
	F = 0.37, p = 0.78			
Math Application	3.27 (1.53) n=15	3.48 (1.41) n=23	3.16 (1.41) n=38	3.07 (1.16) n=15
	F = 0.35, p = 0.79			
Total Math	3.62 (1.33) n=13	2.97 (1.40) n=25	3.17 (1.46) n=30	3.43 (1.27) n=23
	F = 0.84, p = 0.47			

* Indicates statistical significance

Table 8

Mean Score for
Time in Social Studies
For Each Achievement Variable
Plus F Test for Significance

CTBS Area	Quartile			
	First	Second	Third	Fourth
Vocabulary	3.06 (1.52) n=17	2.90 (1.60) n=31	3.12 (1.39) n=25	3.22 (1.35) n=18
	F = 0.20, p = 0.90			
Reading Comprehension	3.17 (1.54) n=18	3.33 (1.68) n=24	2.82 (1.33) n=28	2.95 (1.32) n=21
	F = 0.59, p = 0.62			
Total Reading	3.06 (1.52) n=17	3.33 (1.68) n=24	2.61 (1.32) n=33	3.53 (1.18) n=17
	F = 1.98, p = 0.12			
Math Concept	3.19 (1.52) n=16	3.48 (1.63) n=21	2.79 (1.43) n=33	2.95 (1.28) n=21
	F = 1.03, p = 0.39			
Math Computation	3.00 (1.41) n=9	3.29 (1.43) n=24	2.75 (1.57) n=24	3.12 (1.45) n=34
	F = 0.57, p = 0.64			
Math Application	3.53 (1.60) n=15	2.91 (1.56) n=23	2.92 (1.48) n=38	3.13 (1.12) n=15
	F = 0.72, p = 0.54			
Total Math	3.46 (1.45) n=13	2.96 (1.54) n=25	2.90 (1.52) n=30	3.13 (1.36) n=23
	F = 0.49, p = 0.69			

* Indicates statistical significance

Table 9

Mean Score for
Time in Spelling
For Each Achievement Variable
Plus F Test for Significance

CTBS Area	Quartile			
	First	Second	Third	Fourth
Vocabulary	3.11 (1.50) n=17	3.48 (1.50) n=31	3.52 (2.26) n=25	3.50 (1.25) n=18
	F = 0.32, p = 0.81			
Reading Comprehension	3.44 (1.34) n=18	3.25 (1.80) n=24	3.93 (1.15) n=28	2.95 (1.28) n=21
	F = 3.09, p = 0.11			
Total Reading	3.47 (1.33) n=17	3.00 (1.79) n=24	3.76 (1.22) n=33	3.35 (1.32) n=17
	F = 1.32, p = 0.27			
Math Concept	3.63 (1.41) n=16	3.48 (1.60) n=21	3.18 (1.42) n=33	3.62 (1.36) n=21
	F = 0.55, p = 0.65			
Math Computation	3.89 (1.36) n=9	3.25 (1.57) n=24	3.29 (1.55) n=24	3.53 (1.31) n=34
	F = 0.55, p = 0.65			
Math Application	3.13 (1.68) n=15	3.35 (1.40) n=23	3.58 (1.45) n=38	3.47 (1.30) n=15
	F = 0.37, p = 0.78			
Total Math	3.85 (1.46) n=13	3.16 (1.60) n=25	3.43 (1.38) n=30	3.48 (1.34) n=23
	F = 0.66, p = 0.58			

* Indicates statistical significance

Table 10

Mean Score for
Time in Physical Education
For Each Achievement Variable
Plus F Test for Significance

CTBS Area	Quartile			
	First	Second	Third	Fourth
Vocabulary	4.65 (0.70) n=17	4.74 (0.68) n=31	4.28 (1.37) n=25	4.50 (1.29) n=18
	F = 0.96, p = 0.41			
Reading Comprehension	4.33 (1.24) n=18	4.83 (0.38) n=24	4.46 (1.14) n=28	4.52 (1.25) n=21
	F = 0.91, p = 0.44			
Total Reading	4.65 (0.70) n=17	4.63 (1.01) n=24	4.58 (0.90) n=33	4.29 (1.57) n=17
	F = 0.43, p = 0.73			
Math Concept	4.63 (0.72) n=16	4.67 (0.80) n=21	4.36 (1.37) n=33	4.67 (0.91) n=21
	F = 0.54, p = 0.65			
Math Computation	4.33 (0.87) n=9	4.96 (0.20) n=24	4.25 (1.39) n=24	4.53 (1.10) n=34
	F = 2.08, p = 0.11			
Math Application	4.60 (0.74) n=15	4.57 (1.08) n=23	4.63 (0.99) n=38	4.27 (1.39) n=15
	F = 0.45, p = 0.72			
Total Math	4.46 (0.78) n=13	4.88 (0.44) n=25	4.40 (1.32) n=30	4.43 (1.20) n=23
	F = 1.16, p = 0.33			

* Indicates statistical significance

Table 11

Mean Score for
Time in Recess
For Each Achievement Variable
Plus F Test for Significance

CTBS Area	Quartile			
	First	Second	Third	Fourth
Vocabulary	4.18 (1.38) n=17	4.67 (0.84) n=30	4.84 (0.94) n=25	4.67 (4.67) n=18
	F = 1.48, p = 0.23			
Reading Comprehension	4.11 (1.53) n=18	4.70 (0.64) n=23	4.68 (1.19) n=28	4.90 (0.30) n=21
	F = 2.13, p = 0.10			
Total Reading	4.18 (1.38) n=17	4.67 (0.92) n=24	4.75 (0.92) n=32	4.76 (0.97) n=17
	F = 1.35, p = 0.26			
Math Concept	4.19 (1.42) n=16	4.70 (0.92) n=20	4.55 (1.03) n=33	5.00 (0.63) n=21
	F = 2.05, p = 0.11			
Math Computation	4.44 (0.88) n=9	4.83 (0.48) n=24	4.13 (1.51) n=23	4.85 (0.86) n=34
	* F = 2.89, p = 0.04			
Math Application	4.40 (1.18) n=15	4.41 (1.40) n=22	4.74 (0.86) n=38	4.87 (0.52) n=15
	F = 0.98, p = 0.41			
Total Math	4.58 (0.79) n=12	4.52 (1.15) n=25	4.43 (1.22) n=30	5.00 (0.60) n=23
	F = 1.47, p = 0.23			

* Indicates statistical significance

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